

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method of producing a tire cord comprising a twisted cord and an adhesive layer for rubber coated on the surface of the twisted cord, comprising:

coating the twisted cord by spraying an adhesive material; and
uniformizing the coating of the adhesive material on the twisted cord through an interlacer or a blow nozzle after the spraying,

wherein the adhesive material has a viscosity of 50 to 3000 mPas.

2. (canceled)

3. (previously presented): A method of producing a tire cord according to claim 1, wherein a predetermined amount of the adhesive material is fed by a pump in the spraying.

4. (canceled)

5. (previously presented): A method of producing a tire cord according to claim 1, wherein the adhesive material is an adhesive composition comprising (A) a conjugated diene polymer having a weight average molecular weight of 500-100,000 and (B) a basic compound having an electron pair donor property.

6. (previously presented): A method of producing a tire cord according to claim 5, wherein the adhesive composition comprises the basic compound having the electron pair donor property (B) in an amount of 0.2-50 parts by mass based on 100 parts by mass of the conjugated diene polymer (A).

7. (previously presented) A method of producing a tire cord according to claim 5, wherein a reaction heat curve of a mixture consisting of 100 parts by mass of an adhesive composition and 3 parts by mass of sulfur such as cyclic sulfur (S) (measured by a differential scanning calorimeter at a temperature rising rate of 5°C/min) indicates a reaction heat peak accompanied with the vulcanization reaction at a temperature zone of not higher than 190°C, which is not observed in a reaction heat curve of a mixture consisting of 100 parts by mass of the above conjugated diene polymer (A) and 3 parts by mass of sulfur.

8. (previously presented): A method of producing a tire cord according to claim 1, further comprising forming a composite by adhering an adhesive layer for rubber with a rubber mixture comprising sulfur, wherein if a count quantity of sulfur atoms in a section perpendicular to the adhered face through a fluorescent X-ray is measured by an X-ray analysis through an electron microscope, a sulfur count quantity in the adhesive layer for rubber becomes larger than an average distribution of the sulfur count quantity in the adhered rubber.

9. (previously presented): A method of producing a tire cord according to claim 5, wherein the adhesive composition further comprises (C) a compound having three or more functional groups capable of crosslinking through an ultraviolet ray or radiation irradiation in

one molecule and/or (D) a compound comprising one or two functional groups capable of conducting radical polymerization through an ultraviolet ray or radiation irradiation.

10. (previously presented): A method of producing a tire cord according to claim 5, wherein a terminal group of the conjugated diene polymer (A) comprises a vinyl group, acryloyl group, methacryloyl group, acryloyloxy group, methacryloyloxy group or allyl group.

11. (previously presented): A method of producing a tire cord according to claim 5, wherein a terminal group of the conjugated diene polymer (A) comprises an acryloyloxy group or methacryloyloxy group.

12. (previously presented): A method of producing a tire cord according to claim 5, wherein the basic compound having an electron pair donor property (B) comprises a nitrogen-containing compound having unpaired electrons or a compound produced by thermally decomposing the compound having a structure of unpaired electron.

13. (previously presented): A method of producing a tire cord according to claim 12, wherein the nitrogen-containing compound having unpaired electrons comprises an amine compound or a polymerizable monomer containing an aliphatic amine residue or a heterocyclic amine residue and having carbon-carbon double bond.

14. (previously presented): A method of producing a tire cord according to claim 13, wherein the amine compound comprises an aliphatic amine, an aromatic amine, an aldehyde amine, a guanidine, a thiourea or a heterocyclic amine.

15. (previously presented): A method of producing a tire cord according to claim 14, wherein the aliphatic amine comprises dibutylamine, ethylene diamine or polyethylene polyamine, and the aromatic amine comprises aniline, m-phenylene diamine or 2,4-toluylene diamine, and the aldehyde amine comprises n-butylaldehyde aniline, and the guanidine comprises diphenyl guanidine or diorthotolyl guanidine, and the thiourea comprises thiocarbanilide, diethyl thiourea or tetramethyl thiourea, and the heterocyclic amine comprises pyridine or 2-methyl imidazole.

16. (previously presented): A method of producing a tire cord according to claim 13, wherein the polymerizable monomer comprises at least one compound selected from the group consisting of 2-vinylpyridine, 4-vinylpyridine, m-(N,N-dimethylamino) styrene, p-(N,N-dimethylamino) styrene, acrylamide, methacrylamide, N-methyl acrylamide, N-isopropyl acrylamide, N-n-butyl acrylamide, N-n-octyl acrylamide, N,N-dimethyl acrylamide, 1-vinyl imidazole, allylamine, 2,5-distyryl pyridine, 2-dimethylaminoethyl methacrylate, N-vinyl-2-pyrilidone, 2-vinyl-2H-indazole, 4-diisopropylamino-1-butene, trans-2-butene-1,4-diamine, 2-vinyl-4,6-diamino-1,3,5-triazine, 4-methyl-5-vinyl thiazole, N-vinylformamide, N,N-dimethylaminoethyl acrylate, N,N-dimethylaminopropyl acrylamide, acryloyl morpholine and N,N-diethyl acrylamide.

17. (previously presented): A method of producing a tire cord according to claim 12, wherein the compound having a structure of unpaired electrons is thermally decomposed to form a compound as a vulcanization accelerator.

18. (previously presented): A method of producing a tire cord according to claim 12, wherein the compound produced by thermal decomposition of the compound having a structure of unpaired electrons comprises tetramethylthiuram disulfide.

19. (previously presented): A method of producing a tire cord according to claim 9, wherein the compound (C) is included in an amount of 30-80 parts by mass based on 100 parts by mass of the conjugated diene polymer (A).

20. (previously presented): A method of producing a tire cord according to claim 9, wherein the compound (C) comprises a novolac type phenolic resin modified with acryloyl group and/or methacryloyl group.

21. (previously presented): A method of producing a tire cord according to claim 5, wherein the adhesive composition further comprises at least one additive selected from the group consisting of an epoxy compound, an inorganic filler and a high molecular weight filler.

22. (previously presented): A method of producing a tire cord according to claim 1, wherein the adhesive material comprises an ultraviolet ray or radiation curable adhesive composition comprising (A) a conjugated diene polymer having a weight average molecular

weight of 500-100,000, (E) a compound comprising three or more of acryloyloxy group, methacryloyl group or functional group represented by the following formula (I):



(wherein R¹ is an alkylene group having a carbon number of 2-5, and R² is a hydrogen atom or an alkyl group having a carbon number of 1-3, and m is an integer of 0-5) in one molecule, and (F) a compound comprising one or two acryloyloxy groups or methacryloyloxy groups.

23. (previously presented): A method of producing a tire cord according to claim 22, wherein a terminal group of the conjugated diene polymer (A) comprises a vinyl group, acryloyl group, methacryloyl group, acryloyloxy group, methacryloyloxy group or allyl group.

24. (previously presented): A method of producing a tire cord according to claim 22, wherein a terminal group of the conjugated diene polymer (A) comprises an acryloyloxy group or methacryloyloxy group.

25. (previously presented): A method of producing a tire cord according to claim 22, wherein 30-80 parts by mass of the compound (E) and 3-60 parts by mass of the compound (F) are included based on 100 parts by mass of the conjugated diene polymer (A).

26. (previously presented): A method of producing a tire cord according to claim 22, wherein the ultraviolet ray or radiation curable adhesive composition further comprises at least one additive selected from the group consisting of an epoxy compound, an inorganic filler, a high molecular weight filler and a basic compound.